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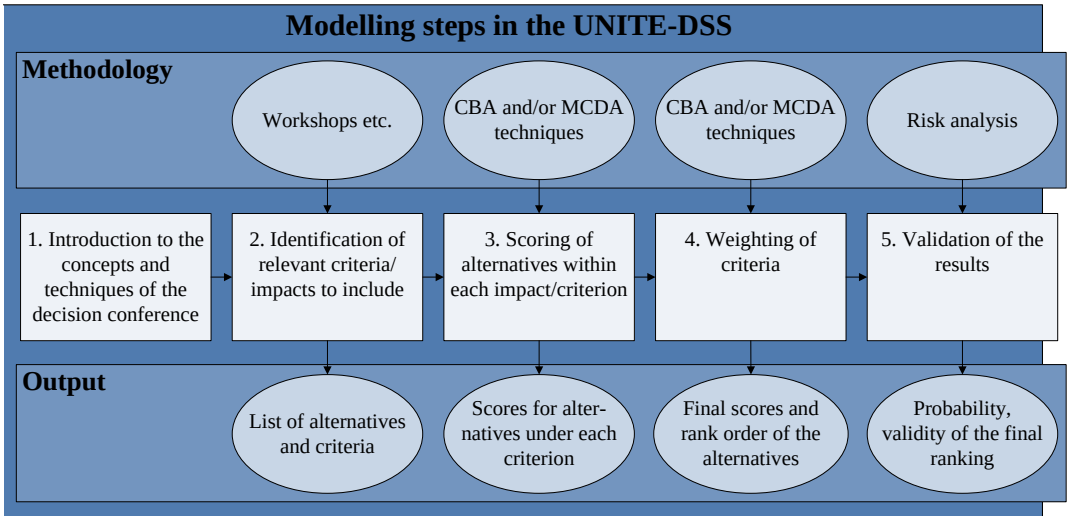
This presentation introduces the brand new approach of integrating risk simulation and decision conferencing within transport project appraisal (UNITE-DSS model). The modelling approach is divided into various modules respectively as point estimates (cost-benefit analysis), stochastic interval results (quantitative risk analysis and Monte Carlo simulation) and finally framed within stakeholder involvement (decision conferencing) as depicted in the figure.



Recent research has proven that particularly input based impacts such as construction cost and travel time savings often are respectively underestimated and overestimated creating so-called Optimism Bias. Decision-makers and stakeholders are, hereby, often basing their decisions on inadequate material. The UNITE Modelling System introduces an integrated approach by allowing decision-makers and stakeholders to participate in the project appraisal scheme at an early stage by attending a preliminary decision conference, which structures the decision process and provides input variables to the decision support model. It enables a structured debate between the participants that are either involved in and/or affected by the decision problem. The debates, evolving between the participants representing different perspectives on the problem, are able to enrich the basis on which the decisions have to be made. Thus the aim of a decision conference is to develop a common understanding of the decision problem between the participants, to create a sense of common purpose and achieve a group commitment (Phillips, 2007). The concept consists of three main components: group processes, decision analysis (creating the structure) and information technology (in the present case the UNITE-DSS). The group processes are assisted by an impartial facilitator guiding the participants though the steps of the decision conference. The DSS is being operated by a decision analyst who on-the-spot collects the relevant data and judgments of the participants. As depicted such a decision conference can be based on a five-step process leading the participants through the decision process. The five steps are universal and can be applied regardless of the nature of the decision problem considered; only minor adjustments should need to be made within the steps. The participants (i.e. stakeholders, project owners, decision-makers, etc.) will during a 1 or 2 day seminar be brought together with the purpose of discussing and agreeing upon uncertainties with respect to the construction cost estimates and travel time savings. Correspondingly, a set of extreme values are collected in terms of